

of the drug, and the remaining nine received 20 mg. In eight patients, or 7 per cent, a definite fall in blood pressure occurred during the operation. A second injection of paredrine promptly raised the blood pressure to a satisfactory level in each case, and this level was maintained throughout the operation. After the experience with this group, the following method seemed satisfactory: a dose of 10 to 15 mg. of paredrine for low operations, and 20 mg. for operations on the upper abdomen. In an additional 250 cases a satisfactory blood pressure level was maintained, and a second injection of paredrine was not necessary in any case. As compared with ephedrine, which had been used previously, it was found that a more satisfactory blood pressure level could be maintained more consistently, and that there were definitely fewer hypotensive reactions. In addition, paredrine proved much more efficient in restoring the blood pressure when it fell to a critically low level during spinal anesthesia. . . . Paredrine produces a definite and sustained rise in arterial pressure. The evidence available indicates certain differences in the mechanism of the pressor action of paredrine and epinephrine. . . . Although more data are essential, the drug appears to be of value in certain types of shock." 26 references.

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LEIGH, M. D.: *Preoperative and Post-operative Medication*. Canad. M. A. J. 47: 150-152 (Aug.) 1942.

"The desired effects fall under two main headings. The first is the production of a quiet, comfortable patient, whose fear or apprehension of the surgical procedure is minimized. The second is the reduction of toxicity from the anesthesia. . . . To minimize apprehension and reduce the toxicity

of the anesthetics, there are two groups of drugs. The members of the first group are the opiates, such as morphine, pantopon, codeine, heroin, and dilaudid, as well as the ultra short-acting barbiturates, evipal and pentothal. In addition to inducing a state akin to sleep, they have good analgesic or pain-relieving properties. The members of the second group are the moderately short-acting barbiturates, such as nembutal, seconal, delvinal, and numerous others, the alcohols, which include avertin and ethyl alcohol, and a few others such as chloral hydrate and paraldehyde. The drugs in this second group are good hypnotics but have almost no analgesic properties. In order to lessen the secretions in the air passages, members of the above sedative groups are combined with either atropine or scopolamine, known also as hyoscine. . . . For simple cases, a combination of one or both groups of sedative drugs and atropine or scopolamine is satisfactory. For the more complex cases, however, the choice of premedication may be most important. . . .

"Persons with hyperthyroidism, acute pain, high fever, great fear, mania, or a rugged athletic constitution require much larger doses of sedative to bring them to a suitable state of tranquility. On the other hand, the myxoedematous or hypothyroid patient, or the debilitated frail individual requires smaller doses of sedative to depress him to the desired degree. . . . From the anesthetic point of view, it is safer when using nitrous oxide, ethylene, or intravenous barbiturates, namely, evipal and pentothal, to take advantage of the maximum analgesic properties of the opiates. Morphine, pantopon and dilaudid subcutaneously reach their maximum analgesic effect from one to one and a half hours after the injection, whereas heroin and codeine subcu-

taneously, reach their peak analgesic effect in a little over thirty minutes. Intravenously, however, these five opiates reach their maximum analgesic effect in twenty minutes. Maximum analgesic effect does not necessarily coincide with the maximum hypnotic effect, but there will be enough sedation to remove apprehension. . . . Nembutal, seconal, and delvinal orally, reach their maximum hypnotic effect in about one hour. Chloral hydrate orally, and paraldehyde and avertin rectally, reach their peak hypnotic effect in about thirty minutes. If the rectal instillation of avertin is rapid (within two or three minutes) there may be profound depression in less than fifteen minutes. When these drugs are given rapidly, close vigilance of the patient's respirations is vital. Paraldehyde intramuscularly produces its maximum depression in fifteen to twenty minutes.

"In drying the secretions, atropine has little value if more than an hour elapses before the beginning of anesthesia. Scopolamine is effective up to about one and a half hours. Atropine and scopolamine, however, should be given at the first, since there is evidence to show that these agents decrease some at least of the untoward effects of the opiates, particularly the nausea and the respiratory depression. If a long time elapses before operation then either the atropine or scopolamine can be repeated; this had better be done if the anesthetic agent is to be ethyl or divinyl ether. On the surface, it seems that these attempts to time the preoperative medication with the operation would be completely impractical. It is surprising, however, how closely this can be gauged, especially if the surgical resident who posts the time of operation is familiar with the habits of his surgeon. . . . It should be remembered that the preoperative sedative

still has an effect postoperatively. . . . It follows from this, that after operation the patient will have the combined depressing effect of preoperative sedative, anesthetic and operation. This depression can either cause shock by anoxia, or aggravate a collapse which has been initiated by some other cause. There are, however, two postoperative conditions which seem to indicate the use of a sedative, and these are pain and restlessness. For pain an opiate is indicated, the best analgesic being dilaudid. If there has been no opiate included in the preoperative sedative or the pain is acute, then comparatively large doses will be required: but doses should seldom be as large as those used for preoperative medication. It is better to give small repeated doses frequently rather than massive doses infrequently. . . .

"If the patient is suffering pain postoperatively and the hypnotic drugs alone such as nembutal, seconal, delvinal, avertin, chloral hydrate, and paraldehyde have been given, then he will be very unco-operative and restless. Here an opiate, especially dilaudid, is indicated. If the patient suffers from hypoxia, which is a decreased oxygenation of the tissues caused by the usual postoperative respiratory and circulatory depression, he may be very restless. Under these circumstances it is surprising what repose can be obtained with a few hours of oxygen therapy by nasal catheter, B.L.B. mask or tent. Oxygen therapy under these conditions helps to clear the brain." 7 references.

J. C. M. C.

GERRIE, JOHN, AND MACKENZIE, J. R.: *Basal Narcosis: for Tonsil Operations on Children*. *Lancet* 1: 759-760 (June 27) 1942.

"In order to protect patients as far as possible from the mental disturb-